REMARKS

In response to the Office Action mailed on May 28, 2008, Applicant(s) respectfully request(s) reconsideration. Claims 1-11, 13, 16-31, 34-38 and 40 are now pending in this Application. Claims 41-43 have been added. Claims 1, 21, 24, 37, 38 and 40 are independent claims and the remaining claims are dependent claims. In this Amendment, claim(s) 1, 21, 24, 37, 38 and 40 have been amended recite the limitations of a "component execution environment," support for which can be found in Applicants' Specification at line 12, page 5 and throughout the Specification. No new matter has been added. Applicants believe that the claims as presented are in condition for allowance. A notice to this affect is respectfully requested.

Claims 1 - 11, 13, 16 - 21, 23 - 31, 34 - 38 and 40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Silberschatz in view of Da Palma et al. (2003/0135781 AI; "Da Palma").

The Office Action asserts:
As to claim 1, Silberschatz teaches a method for processing timer events... establishing a timer to track expiration of the time value (section 12.3.3)...

Applicants respectfully submit that the cited sections of Silberschatz (4.13, 4.1.4; 4.2.3; 5.1; 9.2, 12.3.3) describe basic operating concepts but do not describe "establishing a timer in a component execution environment" as recited in amended claims 1, 24, 37, 38 and 40. One of ordinary skill in the art would not equate establishing a timer in a component execution environment to the use of a hardware clock to signal a requestor.

The Office Action further states that Silberschatz teaches a method for: **"receiving a second timer subscription to the same timer as the timer subscription** (section 12.3.3)."

Applicants respectfully submit that section 12.3.3 discusses the use of a hardware clock/timer to provide a list of interrupts based on counting down a hardware timer and and "signals the requester." This is not the equivalent of "receiving a second timer subscription to the same timer as the timer subscription" as recited in claim 1.

> The Office Action admits that:
> Silberschatz fails to specifically teach specifying the timer name and **multiple subscriptions to a timer by specifying the timer name** and attempts to cure the deficiency in Silberschatz by merely stating:
> However, Da Palma teaches the subscriptions include a timer identity (¶ 29).

> Da Palma teaches: [0029] Once the request to start a particular timer is received by the SM agent 120, the timer can be enabled and configured according to the parameters defined within the configuration file. For example, the SM agent 120 can begin a "timer" thread which can sleep for the number of seconds specified by the timer properties in the configuration file. Still, the timer can be implemented within a process separate from the time-out susceptible task such that if the task experiences an error condition, it will not likely affect the timer. Although FIG. 2 depicts a single timer being enabled, it should be appreciated that **multiple timers having different names** can be enabled. The SM agent 120 further can make a hash table entry corresponding to the enabled timer. (Emphasis added)

Applicants respectfully submit that by giving each timer a different name DaPalma teaches against Applicants' invention and that niether Silberschatz nor DaPalma teach or suggest "receiving a second timer subscription to the **same timer** as the timer subscription, the timer identified by **a timer name** provided by both **the timer subscription** and **the second timer subscription**" as recited in claim 1. For at least these reasons claim 1 is patentable over Silberschatz in view of DaPalma.

For analogous reasons, independent claims 21, 24, 37, 38 and 40 are also patentable over Silberschatz in view of DaPalma.

> Regarding claim 3, the Office Action states:
> Silberschatz teaches establishing the timer further comprises: adding the identity of the module to a **global timer map**, the global timer map operable to indicate a

plurality of modules; and adding a reference to the subscriber including the timer handler into a **local timer map** associated with the module (sections 12.3.3; 4.1.3).

Applicants respectfully submit that Section 4.13 merely describes a conventional process control block and Section 12.3.3 discusses the use of a hardware clock/timer to provide a single count down hardware timer. This is not the equivalent of: "a global timer map, the global timer map operable to indicate a plurality of modules; and adding a reference to the subscriber including the timer handler into a local timer map," as recited in claim 3. Thus, Applicants request that Examiner's 35 U.S.C. § 103(a) rejection be withdrawn since claim 3 is not taught by Silberschatz , alone or in combination with the other cited references, as well. If the rejection is to be maintained, Applicants request that it be pointed out with particularity where the cited references disclose the claim limitations as disputed above.

Regarding claim 11, Applicants respectfully submit that as described above Silberschatz does not teach **enabling disabled modules upon expiration of a timer subscribed to by any of the multiple subscribers,** because Silberschatz signals a single requester.

As to claim 18, Applicants respectfully submit that Silberschatz does not teach associating the timer with a **generation counter**, the **generation counter** incrementally labeling each invocation from a particular subscriber. As described in Applicants' specification, the generation counter is used to resolve a problem where: "Publication of a timer event following expiration may cause the activation of the subscriber's component. In its initialize(), that component may reschedule() that same timer. However, if the timer is aperiodic, the timer service will cancel that timer when the publication completes, thus overriding the rescheduling in initialize(). To resolve this problem, a generation counter is associated with each timer. Upon rescheduling the timer in initialize(), the timer's generation counter is incremented. When timer event publication completes and the timer is about to be cancelled, that generation counter is checked. If the

generation counters do not match, the timer is not cancelled." (Page 28 lines 15-22). Because Silberschatz does not teach "publication of a timer event following expiration may cause the activation of the subscriber's component," there would be no reason for Silberschatz to use a generation counter.

The Office Action admits: "as to claim 22, Silberschatz fails to specifically teach "assigning, to a particular thread corresponding to the queue, performance of the timer handler corresponding to the expired timer," but asserts that Mann does. Applicants respectfully submit that Mann teaches "a signal number of the appropriate signal handler is pushed onto a signal stack" but does not teach " assigning, to a particular thread corresponding to the queue, performance of the timer handler corresponding to the expired timer," as recited in claim 22. Therefore claim 22 is patentable over Silberschatz in view of Da Palma and further in view of Mann.

Claims 41-43 have been added to further clarify and distinguish Applicant's claimed invention over the cited references. Claim 41 has been added to clarify that the <u>execution environment is a Common Object Request Broker Architecture (CORBA) environment, enabling further comprising loading Dynamic Link Library (DLL) for runtime binding of the activated module</u>, as discussed at page 18, lines 3-8. Such dynamic binding allows loading from unexecutable storage (i.e. disk memory) into executable memory (i.e. main memory, or RAM) at runtime, without requiring a previously compiled object file of bound addresses, as is known in the art. As Silberschatz is based on OS concepts, such as delegation to loaded addresses, Silberschatz makes no teaching or suggestion of whether those addresses were bound at compile time, as in traditional system, or dynamically linked at runtime, as with the claimed DLL. Silberschatz is concerned with scheduling from an OS perspective, and thus does not show, teach, or disclose dynamic (runtime) binding of addresses as exhibited by a CORBA implementation using DLLs. Accordingly, one of skill in

the art would not look to DePalma to modify Silbershatz, and even if one did the claimed invention would not result.

Claim 42 has been added to further clarify the use of the global and local timer tables, and to distinguish loading, if the located module is not already loaded, the module containing a timer handler corresponding to the expired timer, and locating the corresponding timer handler in the loaded module from the local timer table, as clarified at page 21, line 19, page 22 line 17.

Claim 43 has been added to clarify the memory efficiency of selective module loading by reciting that loading (i.e. from disk into main memory or RAM) includes transferring the module from an unexecutable memory location to an executable memory location, loading and deactivating such that deactivating frees execution memory for use by other modules, as disclosed at page 23, lines 25-28. Thus, deactivated modules are not loaded into RAM, or memory from which execution may take place, and are copied from disk into memory upon activation.

By virtue of dependency, Applicants respectfully submit that dependent claims 2, 4-10, 16, 17, 19-21, 23, 25-31, 34-36, should also be in condition for allowance.

Applicant(s) hereby petition(s) for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 616-9660, in Westborough, Massachusetts.

Respectfully submitted,

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